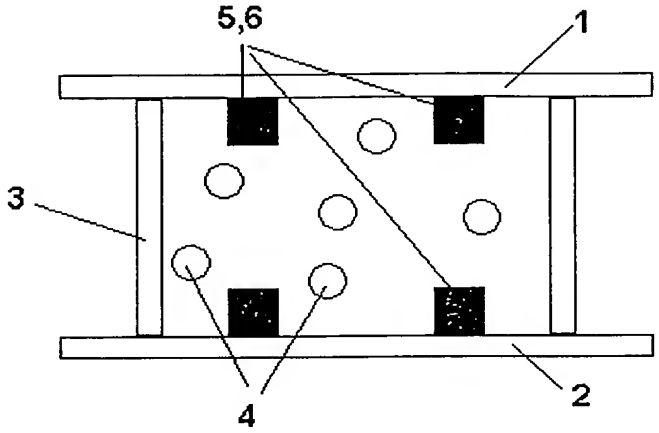


FIG. 1

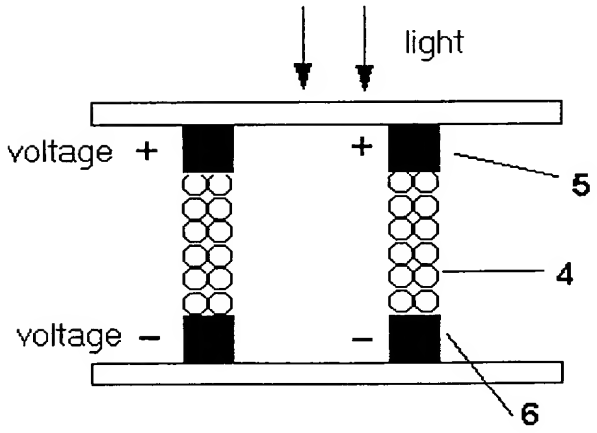


FIG. 2

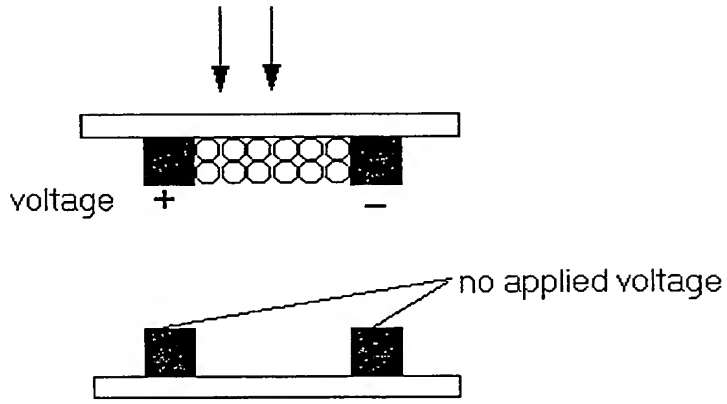


FIG. 3

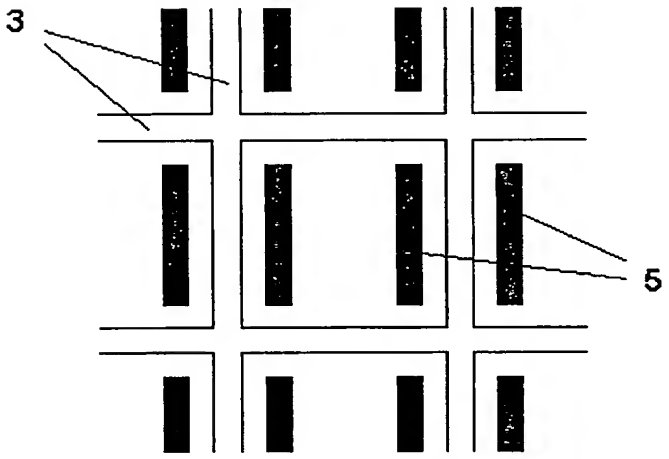
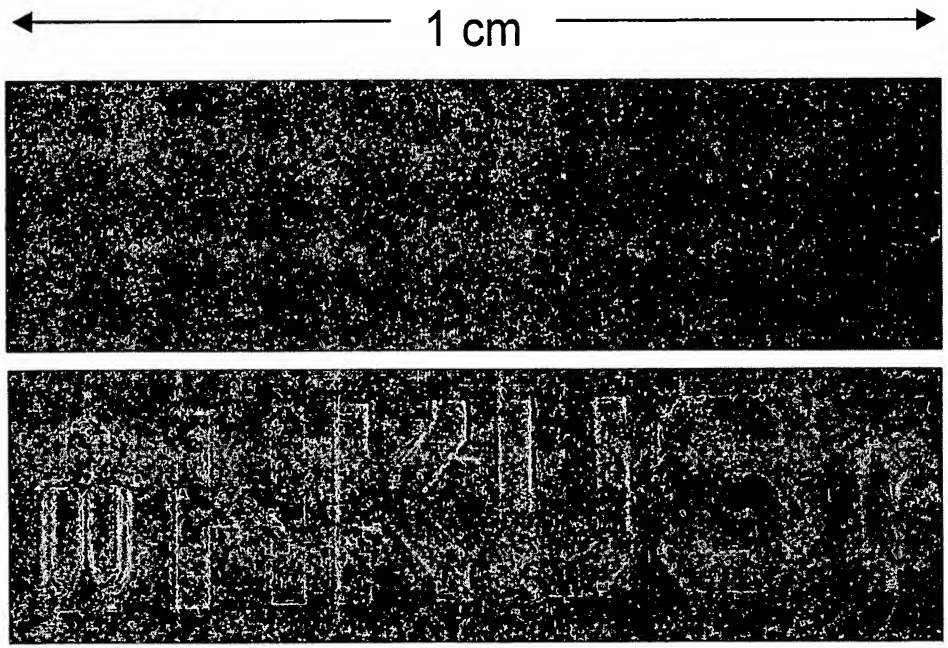


FIG. 4



Pictures taken for a real prototype:
Upper panel: Electric field off
Lower panel: Electric field on. Field strength= 40 V/mm.
$BaTiO_3$ particles (50nm diameter) suspended in silicone oil

FIG. 5 (a)

Another picture showing that the ER particles aggregate forming a particular pattern
Electric field ~ 30 to 50 V/mm

FIG. 5 (b)